

STEREO MOC Status Report
Time Period: 2014:216 - 2014:222

STEREO Ahead (STA) Status:

1. The following Ground System anomalies/events occurred during this reporting period:

- None.

2. The following spacecraft/instrument events occurred during this week:

- On day 216, the 70th momentum dump was executed successfully at 1800z, which imparted a delta V of 0.0861 m/sec. Note that the momentum target was set lower, 8 Nms, rather than the typical 15 Nms, to allow for the last SECCHI Stepped Calibration before side lobe operations commence on Ahead on August 20th.
- On day 217, the long duration (11 months) ephemeris, to be used for solar conjunction, was loaded to G&C RAM, in preparations for side lobe operations.
- On day 218, a Side Lobe Real-time Telemetry Test was conducted and provided good feedback for real-time science data return during side lobe operations. The averaged real-time telemetry rates were at or better than required and space weather beacon data was received for all instruments for the three tested configurations. However, there were instrument science and housekeeping data dropouts during the spacecraft SSR playback portions of both first side lobe tests. Within the RTDFD tables, these rows are at the bottom of the table and therefore will be affected by any imbalance in the telemetry data flow. At this very low telemetry rate, 10 kbps, the playback ratio is set as low as possible, at one. Therefore, the downlink is split between the playback and real-time telemetry until the playback completes or the SSR empties. The combined instrument real-time telemetry rate is set for 7.2 kbps. For the second side lobe test, at 3 kbps, for which no dropouts occurred, the combined instrument real-time telemetry rate is set for 1.7 kbps, roughly half the downlink rate. At the start of the test, the spooler buffer queues, which buffer all real-time telemetry, were not cleared as there is no capability to do so. The

spooler buffer queues are sized for the prime science real-time downlink rates. These buffers are dynamically allocated when the C&DH FSW application is loaded and can only be reallocated after a system reset of the observatory. The spooler buffer queue table could be changed to minimize the data dropouts but not ensure eliminating them, before loading and resetting the observatory, as the fidelity of the hardware simulator/flatsat is insufficient. Note that each observatory will be on the first side lobe for approximately five months total. Operational solutions to eliminate the data dropouts are being investigated.

- On day 222, the SECCHI instrument reset at 20:14:57z. The SECCHI team reconfigured the instrument to operational mode at 1100z. This was the 36th reset of SECCHI on the Ahead spacecraft.
- The average daily SSR playback volume for Ahead was 5.3 Gbits during this week.

STEREO Behind (STB) Status:

1. The following Ground System anomalies/events occurred during this reporting period:

- On day 216, during the DSS-63 support, real-time telemetry reception was lost at the MOC for three minutes beginning at 1249z due to a DCD fault tolerance anomaly at the station. The DSN switched to the backup DCD to correct. All SSR data was received. See DR #N109681 for more information.
- On day 221, during the DSS-43 support, turbo decoder lock was lost intermittently beginning at 2345z through 2349z. This anomaly resulted in the loss of 28 frames of SSR data.

2. The following spacecraft/instrument events occurred during this week:

- On day 216, C&DH FSW version 3.2.4 was loaded to EEPROM, copy 2, in preparations for solar conjunction testing.

- The average daily SSR playback volume for Behind was 5.0 Gbits during this week.